

REMARKS

This Amendment and Response and the following remarks are intended to fully respond to the Final Office Action mailed September 13, 2007. In that Office Action, claims 1-7 and 20-26 were examined and all were rejected. More specifically, claims 20-23 were rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-7, 20-24, and 26 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Further, claims 4, 20-23, and 26 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. In addition, claims 1-4 and 20-26 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,245,607 to Caram ("Caram"). Finally, claims 5 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Caram in view of U.S. Patent No. 6,779,038 to Minyard ("Minyard"), and claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Caram in view of U.S. Patent No. 5,594,872 to Kawano et al. ("Kawano"). Reconsideration of these rejections, as they might apply to the original and amended claims in view of these remarks, is respectfully requested.

In this Amendment and Response, claims 1, 4, 20, 22, and 24 have been amended. These amendments were made to improve form only in response to the Examiner's rejections to these claims. No new claims have been added; and no claims have been canceled by this amendment. Claims 8-19 and 27-29 remain canceled, and claims 30-39 remain withdrawn. Therefore, claims 1-7 and 20-26 remain present for examination.

Claim Rejections – 35 U.S.C. § 101

Claims 20-23 were rejected under 35 U.S.C. § 101 "because the claimed invention is directed to non-statutory subject matter." *Office Action, Claim Rejections*, 9/13/2007, at 3. Specifically, the Examiner stated:

The claims are directed to a system of *modules*. As described in the Applicant's specification (pages 8-9), modules can include programs. Programs per se are not one of the statutory classes of invention. Programs must be tangibly embodied on a computer readable medium and be drawn to a practical application in order to be

eligible for patent protection. Therefore, claims 20-23 are directed to non-statutory subject matter.

Office Action, Claim Rejections, 9/13/2007, at 3 (emphasis in original).

Claim 20 has been amended to read: “a receive component module for receiving a broadcast message . . . a storage component module for storing information . . . a communication component module for transmitting broadcast information . . .” The term “module” has therefore been removed. A corresponding amendment was made to dependent claim 22. Claims 21 and 23 depend on amended claim 20. Accordingly, reconsideration of the Examiner’s rejections to claims 20-23 is respectfully requested.

Claim Rejections – 35 U.S.C. §112, First Paragraph

Claims 1-7, 20-24 and 26 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

First, the Examiner stated that the claim language “two or more but less than all” is not supported by the Applicants’ specification. The Applicants respectfully disagree because the specification clearly states that “[t]he partial view, therefore, identifies the number of nodes necessary to insure a high probability of success in disseminating information to all nodes on the network, which may be *significantly fewer nodes as compared to the overall number of nodes* on the network.” *Specification*, at 3 (emphasis added). Clearly, “fewer nodes as compared to the overall number of nodes” supports the claim language “two or more but less than all.” The Applicants therefore respectfully request reconsideration of the rejections to claims 1 and 20.

Second, the Examiner rejected claim 26 because “less than all nodes in the network” is “unsupported by the Applicants’ specification.” *Office Action, 9/13/2007, at 4.* Again, the Applicants respectfully disagree because the specification clearly states that “[t]he partial view, therefore, identifies the number of nodes necessary to insure a high probability of success in disseminating information to all nodes on the network, which may be *significantly fewer nodes as compared to the overall number of nodes* on the network.” *Specification*, at 3 (emphasis added). Clearly, “fewer nodes as compared to the overall number of nodes” supports the claim

language “less than all nodes in the network.” The Applicants therefore respectfully request reconsideration of the rejection to claim 26.

Third, the Examiner rejected claims 1, 20 and 24 because the limitation “independent of hierarchical relationships” is not supported by the Applicants’ specification and because it “appears to be a negative limitation.” *Office Action*, 9/13/2007, at 4. The Applicants respectfully disagree. However, in the interest of furthering this application to allowance, the Applicants have amended the relevant language of claim 1 to read:

for the given node, sending the message to a plurality of other nodes identified in a partial view, wherein the partial view is specific to the given node and resides locally to the given node, and identifies any two or more but less than all other nodes on the network such that the nodes are connected by one or more types of computer system independent of hierarchical relationships, wherein the number of nodes identified in the partial view ~~is~~ was determined in order to provide a determined probability of the message being sent to all nodes.

Similar amendments were made to claims 20 and 24. The Applicants note that the amended claim language provides no new matter. Rather, the claims were amended to improve form and to address the Examiner’s rejections. Accordingly, in light of these amendments, the Applicants respectfully request reconsideration of the rejections to claims 1, 20 and 24. In addition, claims 2-7 and 21-23 are also believed to be patentable under 35 U.S.C. § 112, first paragraph, because these claims depend from the allowable base claims 1 and 20, respectively. Claims 1-7, 20-24 and 26 are thus believed to be in condition for allowance and such action is respectfully requested.¹

Claim Rejections – 35 U.S.C. §112, Second Paragraph

Claims 4, 20-23 and 26 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention.

¹ The Applicants note that while the Examiner expressly stated that the Applicants “reintroduced” the same limitation of “independent of hierarchical relationships,” which was previously rejected by the Examiner in the May 23, 2006 Office Action, at 2-3, the Applicants notified the Examiner that similar language was again being incorporated into the claims in the most recently filed Amendment and Response (dated 1/31/2007). The Applicants provided express reasons for this incorporation of similar language. *See* Amendment, dated 1/31/2007, at 7-8.

First, the Examiner rejected claims 20-23 as indefinite because “it is not clear whether these claims are directed to a *computer system* or a *node*.” Office Action, 9/13/2007, at 5 (emphasis in original). The Applicants respectfully disagree with this rejection of indefiniteness. However, in the interest of forwarding this application to allowance, the Applicants have amended the relevant claim language of claim 20 to read: “A computer system for disseminating information between nodes in a distributed network of nodes, each node comprising” In light of this amendment to claim 20, the Applicants respectfully request reconsideration of the rejection. In addition, claims 21-23 are also believed to be patentable under 35 U.S.C. § 112, second paragraph, because these claims depend from the allowable base claim 20. Reconsideration of the Examiner’s rejections to claims 20-23 is therefore respectfully requested.

Second, the Examiner rejected claim 4 because the claim language “the plurality of subscribed nodes” lacks proper antecedent basis. Office Action, 9/13/2007, at 5. While the Applicants respectfully disagree, for purposes of furthering this application to allowance, the Applicants have amended the relevant language of claim 4 to read: “for at least one of the plurality of ~~subscribed nodes~~ comprising the partial view.” In light of this amendment, the Applicants respectfully request reconsideration of the rejection to claim 4.

Third, the Examiner rejected claim 26 because “additional subscribed nodes” lacks proper antecedent basis. Office Action, 9/13/2007, at 5. While the Applicants respectfully disagree, for purposes of furthering this application to allowance, the Applicants have amended claim 26. The relevant language of claim 26 has been amended to read: “each field identifying address information for additional ~~subscribed~~ nodes in the network but less than all nodes in the network.” In light of this amendment, the Applicants respectfully request reconsideration of the rejection to claim 26.

Claim Rejections – 35 U.S.C. § 102(b)

Claims 1-4 and 20-26 were rejected under 35 U.S.C. § 102(b) as being anticipated by Caram. The applicants respectfully disagree and traverse the rejection. To anticipate under 35 U.S.C. §102(b), a single prior art reference must show each and every limitation of the claimed

invention. See, e.g., *Massey v. Del Lab.*, 118 F.3d 1568, 1573 (Fed. Cir. 1997). The Applicants believe that Caram fails to teach each and every aspect of the invention as claimed. Accordingly, the Applicants believe that the application is in condition for allowance and respectfully request such action.

Embodiments of the present invention, as claimed, provide for the dissemination of messages in a distributed network of nodes. Specifically, each node disseminates information in a gossip-based approach by transmitting received information to all nodes identified in its partial view of the entire network system. According to embodiments, the partial view thus identifies only some of the other network nodes and is created through a decentralized subscription process. A node delivers a message to the nodes identified in its partial view. By transmitting information based only on a partial view of the network, as opposed to the entire network, each node can maintain a smaller amount of information. The claim language relates directly to this "partial view" of the network concept. For example, claim 1 (as amended herein) reads:

[F]or the given node, sending the message to a plurality of other nodes identified in a *partial view*, wherein the *partial view* is specific to the given node and resides locally to the given node, and identifies any two or more but less than all other nodes on the network such that the nodes are connected by one or more types of computer system independent of hierarchical relationships, wherein the number of nodes identified in the *partial view* ~~is was~~ determined in order to provide a determined probability of the message being sent to all nodes.

Claim 1 (emphasis added).

Caram, on the other hand, nowhere teaches or otherwise discloses the concept of using a partial view of the network for disseminating messages throughout a distributed network. To the contrary, Caram teaches away from the present invention's claimed partial view. The nodes in Caram receive messages to broadcast to neighboring nodes. In determining to which nodes to broadcast the message received, Caram teaches a method for determining the physical distance between nodes and for then forwarding messages to a neighboring node based on a comparison of the distance between the neighboring nodes and the location of the source of the message. Unlike the invention as claimed, the nodes of Caram thus have a *full* view of the network of nodes for message transmittal. For example, Caram teaches: "[N]ode 1, forwards a broadcast message that it receives to its neighboring nodes, for example node 2, only if node 1 finds that, in

accordance with the invention, (a) it is closer to the source of message than node 2 and (b) *of all of the neighbors* of node 2, node 1 is the closest to node 2 from the source of the broadcast message.” Caram, col. 2: 26-32 (emphasis added). *See also id.* at col. 2: 60-63 (“Accordingly, the weight, or distance, of a particular path will be taken to mean the sum of weights of links that make up the path.”); *id.* at col. 3: 54-56 (“Thus, in the case of node 1 of FIG. 1, node 1 receives *from each of its neighboring nodes* 2, 5, and 6 a message describing an exclusionary spanning tree . . .” (emphasis added)). Caram thus nowhere teaches the use of a partial view of the network for disseminating messages between nodes. While the Examiner points to col. 2: 26-27 and col. 3:29-42 as teaching the concept of a partial view because “each node contains a dynamically formulated routing table of neighboring nodes, which are a portion of the network nodes,” *Office Action*, 9/13/2007, at 5, Caram’s routing table refers to the decision tree constructed by a node *after considering all* nodes in the network for purposes of constructing the tree. In other words, even if the decision tree constructed by the node in Caram does not include all nodes in the network, the point is that *all* nodes were considered in the formulation of the tree in the first instance. Specifically, Caram incorporates U.S. Patent No. 4,466,060 to Riddle, which provides a process wherein each node builds an exclusionary tree and forwards the exclusionary tree to each connected node, such that each receiving node performs the “process of assembling received exclusionary trees into a routing graph[,] identify[ing] the minimum distance paths from the present node, node 1, *to each other node in the network.*” Riddle, col. 9: 31-34 (emphasis added). However, the nodes of the present invention, as claimed, do not maintain a full view of the network. Rather, they maintain only a partial view, having scalability benefits which the nodes of Caram would not share. By failing to teach or disclose the present invention’s claimed partial view, Caram does not show each and every aspect of the invention as claimed and thus fails to anticipate the present invention under 35 U.S.C. § 102(b).

For at least the reasons presented above, claim 1 is believed to be allowable as Caram fails to anticipate each and every claimed limitation. Similarly, claims 20, 24 and 25 are believed to be allowable for at least the above-identified reasons. Dependent claims 2-4, 21-23 and 26 are also believed to be allowable for reciting further limitations of claims 1, 20, 24, and 25, respectively. Accordingly, the Applicants respectfully request withdrawal of the rejections and allowance of claims 1-4 and 20-26.

Claim Rejections – 35 U.S.C. § 103(a), Caram in view of Minyard

Claims 5 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Caram in view of Minyard. Because claims 5 and 6 depend from what the Applicants believe is an allowable base claim 1, *see* discussion *supra*, claims 5 and 6 are believed to be patentable over Caram in view of Minyard. As such, any remaining arguments supporting the rejections of claims 5 and 6 are not acquiesced to even though they are not addressed herein. Further, Caram in view of Minyard fails to teach or disclose the partial view of the invention as claimed. The Applicants thus respectfully request reconsideration of the rejections to claims 5 and 6 in light of the arguments presented above.

Claim Rejections – 35 U.S.C. § 103(a), Caram in view of Kawano

Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Caram in view of Kawano. Because claim 7 depends from what the Applicants believe is an allowable base claim 1, *see* discussion *supra*, claim 7 is believed to be patentable over Caram in view of Kawano. As such, any remaining arguments supporting the rejection of claim 7 are not acquiesced to even though they are not addressed herein. Further, Caram in view of Kawano fails to teach or disclose the partial view of the invention as claimed. The Applicants thus respectfully request reconsideration of the rejection to claim 7 in light of the arguments presented above.

Conclusion

This Amendment and Response fully responds to the Final Office Action mailed on September 13, 2007. It is recognized that the Office Action may contain arguments and rejections that are not directly addressed by this Amendment and Response due to the fact that they are rendered moot in light of the preceding arguments in favor of patentability. Hence, the failure, if any, of this Amendment and Response to directly address an argument raised by the Examiner should not be interpreted as reflecting the Applicants' belief that such argument has merit. Furthermore, the claims of the present application may include other elements, not discussed in this Amendment and Response, which are not shown, taught, or otherwise suggested

by the art of record. Accordingly, the preceding arguments in favor of patentability are advanced without prejudice to other bases of patentability.

It is believed that no further fees are due with this Amendment and Response to the Final Office Action. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment with respect to this patent application to deposit account number 13-2725.

In light of the above remarks and amendments, it is believed that the application is now in condition for allowance and such action is respectfully requested. Should any additional issues need to be resolved, the Examiner is requested to telephone the undersigned to attempt to resolve those issues.

Respectfully submitted,

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Date: December 13, 2007




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